

Notice of Allowability

Application No.

10/530,138

Examiner

ANAND BHATNAGAR

Applicant(s)

MOJSILOVIC, ALEKSANDRA

Art Unit

2624

- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 03/25/08.
2. ☒ The allowed claim(s) is/are 1.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 06/11/08.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

/Anand Bhatnagar/ (Temporary Full Signatory)

1. Applicant in his preliminary amendment filed on 03/25/08 has canceled claims 2-40. Applicant has amended claim 1. Currently, only claim 1 is pending.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Dr. Louis Herzberg on 06/11/08.

Please amend the specification as follows:

On **page 12** of the specifications please **delete** line 8 which is:

--Fig. 16 is illustrates some possible applications of the color naming methods:--.

Please **replace** the paragraph from line 16 of page 30 to line 18 of page 31 with:

--It should be noted that while the foregoing methods and system can be used to attach color names to individual pixels, samples of color, regions and objects in images and to derive the description of color composition, they can be used in many other applications involving manipulation with color values, color

analysis and color naming in image processing, video processing, visualization, computer graphics and human-machine interaction. To start with, using color names to label regions can often improve the result of image segmentation, since the neighboring regions that share the same color name can be merged. In many cases color names only, or in combination with other features (such as spatial attributes, boundary and size features), can provide valuable information about the analyzed images and reveal their semantics. For example, a picture image having regions labeled vivid blue or vivid purplish blue found in the upper part of the image, may represent sky on a bright sunny day. In the same picture regions with regular boundaries/geometry and bright saturated colors are very likely to be man-made objects. Similarly, the flowers shown in a picture can be easily detected based on the relationships between the curvature and color of say, a vivid reddish purple region, and the neighboring green regions. Overall color composition, as generated with the teachings of this invention, often captures the atmosphere in the scene. For example, by combining the linguistic terms from the color name syntax described in teachings of this invention, the scene shown in Figure 15b can be described as "brownish", and easily related to a man-made environment. Another example of what can be accomplished by adding the color naming ability to the traditional image features (e.g. regions, lines, texture, etc.). By merging all the descriptors, it can be easily concluded that an image is very likely to be an outdoor scene, probably a cityscape or a man-made structure seen from the large viewing distance. Assuming the hypothesis is correct, a step

further would be to conclude "the weather wasn't really nice when the picture was taken". Color naming ability may be implemented as a part of Artificial Intelligence Systems. For example it is also within a scope of these teachings to manipulate a robot by naming and describing the objects it should pick from the production line. In such a case a digital image robot receives would be subjected to the processing shown in Figure 10, and the spatial location of the named color within the digital image, would be remapped to the actual physical location on the production line--.

DETAILED ACTION

Allowable Subject Matter

3. Claim 1 is allowed.
4. The following is an examiner's statement of reasons for allowance: The closest prior art of Syeda-Mahmood (U.S. patent 6,469,706 B1) discloses to identify and label the colors of pixels in an image by putting each one in a particular color space and then using a color book to label each pixel. Syeda-Mahmood further discloses to look at clusters around the pixels and get a descriptor for these clusters and label the clusters by using the color book. Syeda-Mahmood does not specifically teach, regarding claim 1, the features of "computing a color distance in a selected color space between the color value of said pixel and said prototype color value; finding the closest perceptual match to the prototype color value for said color distance; computing an estimate value of

perceptual dissimilarity between said closest perceptual match and color value of said pixel; and using said estimate value to modify said color distance, thereby obtaining said color match value," these, in combination with the other claim limitations.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANAND BHATNAGAR whose telephone number is (571)272-7416. The examiner can normally be reached on M-Th 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.